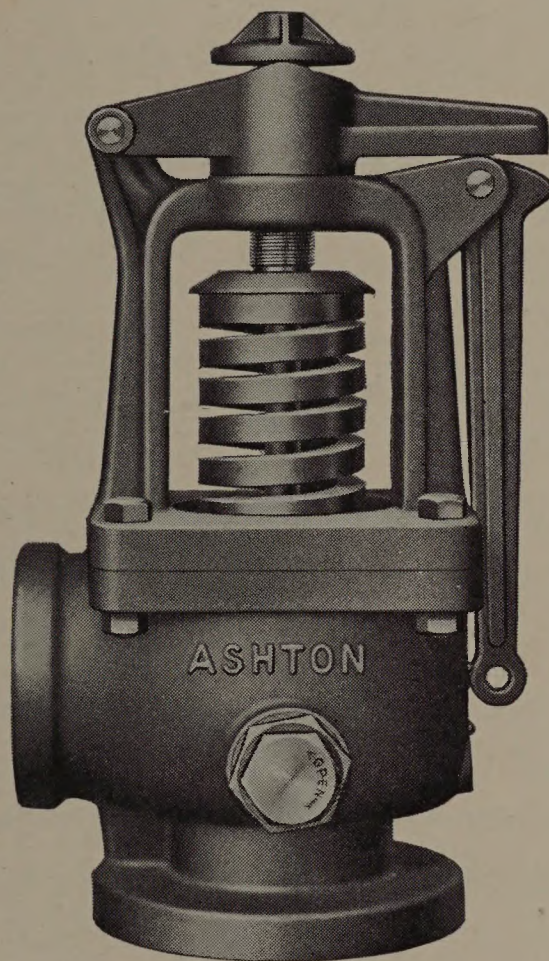


*The*  
**ASHTON**  
HIGH CAPACITY  
"POP"  
SAFETY VALVES

CIRCULAR ▼ NUMBER C2



*The*  
Ashton High Capacity  
Pop Safety Valves



THE ASHTON VALVE COMPANY

161 - 179 FIRST STREET, CAMBRIDGE  
BOSTON MASS.

New York, N. Y.

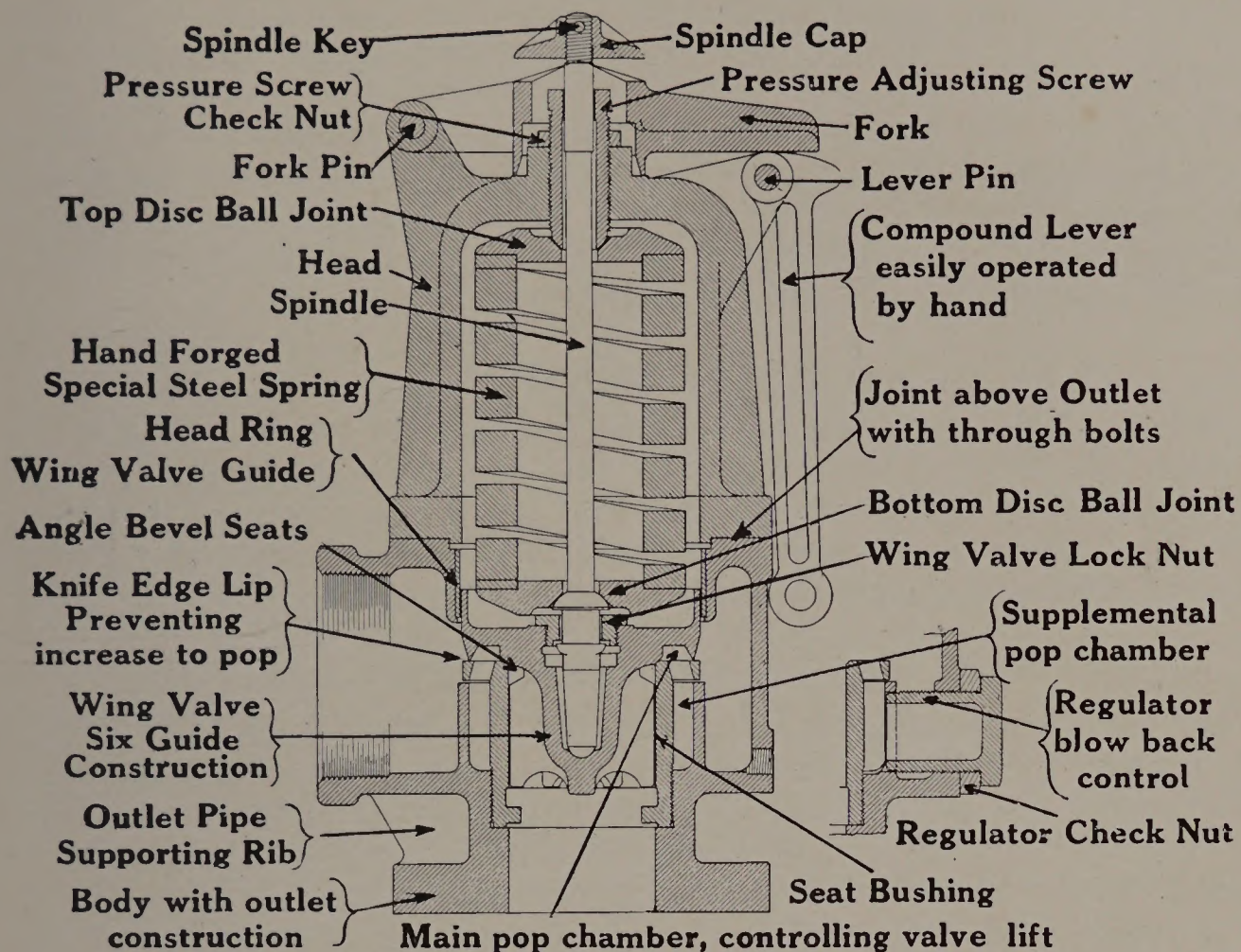
Chicago, Ill.

San Francisco, Cal.

**OUR LATEST DEVELOPMENT IN  
POP SAFETY VALVES OF HIGH CAPACITY**

*Is similar in construction to the spring-actuated valves as manufactured heretofore by this Company. They differ mainly in proportion and weight of materials necessitated by the constant increase in steam pressures and temperatures. The economies obtained in power plants by operating at high pressures are acknowledged by the leading power plant officials, consulting engineers, etc. Water tube boilers of large size with modern furnace design are continuously operated at two and three hundred per cent above normal rating and the safety valves must have sufficient relieving capacity to discharge the great volume of steam. To meet these conditions we have developed the new Ashton High Capacity Pop Safety Valves as illustrated and described on the following pages*

# The Ashton High Capacity Pop Safety Valves



## Points of Mechanical Superiority

### SEAT BUSHING

The lower bushing with 45 degree seat is of extra heavy construction and threaded into the body of the valve. It is of ample length to accommodate the long guides of the wing valve and also forms the inner wall of the supplementary pop chamber, and is not in contact with the valve body above the threaded joint. This construction allows the upper portion of the bushing to expand without interference with or distortion of the seat.

All cast steel valves are fitted with nickel seat bushings which we also recommend for cast iron valves operating at pressures exceeding 150 pounds and for bad water conditions. Bronze seat bushings may be used in the cast iron valves for lower pressures.

### WING VALVE, SEAT

The wing valve (or upper seat) is guided in its operation by six wings or guides below the seat and above the seat with top sleeve guide or head ring, assuring perfect alignment.

### MAIN POP CHAMBER

The pop or huddling chamber is the annular space formed by the overhanging knife-edge lip over the seat bushing. The wing valve in raising from the lower seat allows a pressure to accumulate in the pop cham-

ber, causing the spring to compress slightly whereby the steam passes out beneath the lip to the atmosphere. This knife-edge pop lip wears down in proportion to the wear on the seat, thereby keeping the outlet of the pop chamber on the same relative proportion to the inlet, giving a steady and unvarying pop which insures long service without adjustment.

### SUPPLEMENTAL POP CHAMBER

The supplemental pop chamber is the annular space between the outside of the seat bushing and the valve body and is connected with the pop or huddling chamber by a series of holes around the seat bushing. The proper pressure may be maintained in both chambers when the valve is in operation by the adjustment of the two outside plug pop regulators opposite each other on the sides of the valve.

### BACK PRESSURE

Under ordinary conditions these valves are not affected by back pressure; the head of the wing valve makes a telescopic joint in the head ring, assuring a sustained lift and making it possible to guarantee the relieving capacities on pages 7 and 9. The spring is thereby protected from the steam discharge when the valve is operating.

### POP OR BLOW-DOWN REGULATION

High steam pressures emphasize the importance of efficient regulation in the operation of a safety valve. An excessive loss of steam, or reduction of the boiler pressure more than necessary to close the valve, is wasteful. Each valve is equipped with two plug pop regulators, located opposite each other on the outside of the valve body casting. They are always accessible and may be adjusted with a wrench, without danger even when the valve is blowing. The regulators may be removed from the body casting and the threads lubricated with graphite while the valve is under pressure and seated.

### EXPOSED SPRINGS

The exposed spring type construction has many advantages for either saturated or superheated steam service. High temperatures cannot weaken the spring, it being protected from excessive heat by the head ring, and also exposed to the atmosphere.

The durability and efficiency of a safety valve depends largely upon the spring; therefore, the springs in Ashton Valves are of generous proportions of special steel and are subjected to the most rigid tests for elasticity and endurance.

### ALIGNMENT

Proper alignment of all parts is most essential in safety valve construction. The wing valve must have an absolute vertical lift and all undue friction eliminated. This is insured by the six guides on the wing valve; the centering of spindle in bottom of wing valve well below the seat level; and the ball joint contacts of the spring discs with the spindle and pressure screw.

The head ring, forming a top guide for the wing valve and seat bushing, is fitted into the valve body in perfect alignment.

### LIFTING DEVICE

It is not always convenient or advisable to increase the boiler pressure to blow a safety valve to ascertain if it is in perfect working order. The

powerful cam lever lifting device, when operated by hand, lifts the wing valve from the bushing seat when the pressure is far below the blowing point of the valve.

We recommend, in testing or lifting a valve by the hand lever, that the valve be held open a sufficient length of time to thoroughly clean the side walls of the boiler nozzle and valve of the scale and other foreign matter that may become lodged between the seats.

### ENLARGED OUTLET

High capacity safety valves require a larger area of discharge outlet than inlet, owing to the increased volume of steam at atmospheric pressure. Therefore Ashton High Capacity Valve outlets are two pipe sizes larger than the inlet, *i.e.*, a valve  $3\frac{1}{2}$  inches in diameter at the seat has a  $4\frac{1}{2}$ -inch outlet.

The discharge, therefore, passes to the atmosphere without creating a back pressure in the valve body, and a far greater relieving capacity is assured.

### OUTLET (Reinforcement)

A rib or gusset is cast on the underside of the valve outlet above the inlet flange to provide a support for the weight of the outlet piping, and to protect the valve body from undue strains which might otherwise distort the seat and cause the valve to leak. A short nipple, elbow and four feet of vertical pipe is usually sufficient to pass the requirements of the American Society of Mechanical Engineers' Boiler Code. If exhaust piping of greater length is necessary it should be supported independent of the valve. The discharge pipe to all safety valves should be equal to the full area of the valve outlet, for, if reduced, the proper functioning of the valve is seriously affected, particularly the relieving capacity, which is greatly reduced.

### BASE OUTLET CONSTRUCTION

Both inlet and outlet are in the body casting permitting taking the valve apart for regrinding or cleaning without disturbing the outlet piping.

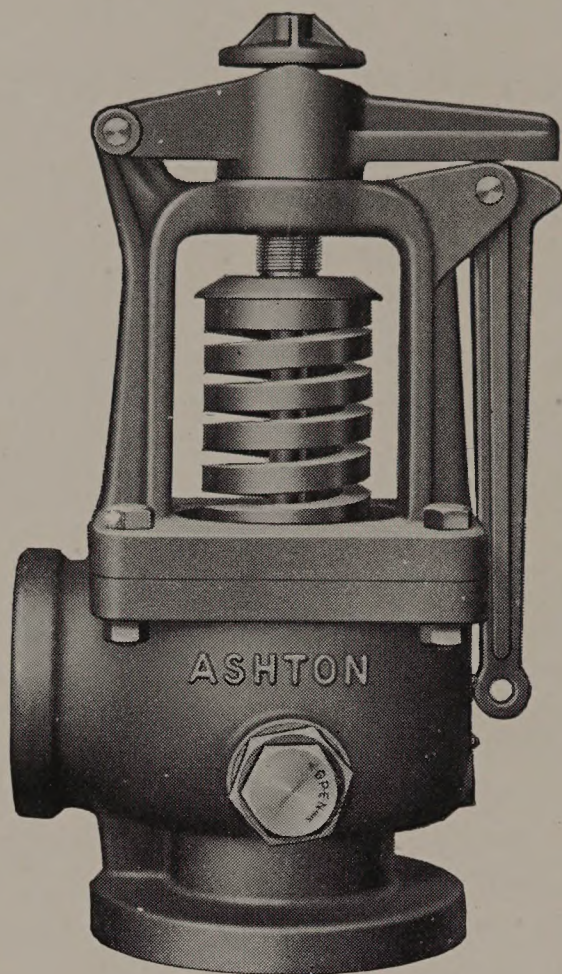
### BOLTS AND NUTS

Through bolts and nuts are used for assembling the valve head to the body, eliminating the annoyance frequently encountered in breaking cap bolts or studs.

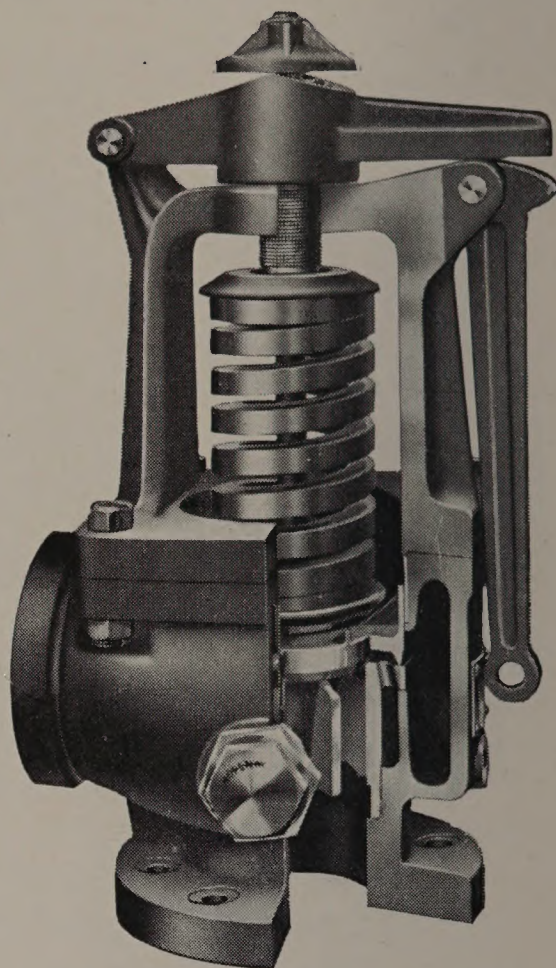
### CAPACITY

Many of the large power plants at the present time are operating their boilers far in excess of the normal rating and it is, therefore, necessary that the safety valve equipment be of sufficient capacity to discharge all of the steam that may be generated. Safety valves of low or moderate relieving capacity are therefore impractical for such installations on account of the number of valves that would be required to give the necessary relief due to the limited number of safety valve nozzles. Charts giving the relieving capacities of Ashton Valves in the several sizes and styles for the various pressures are detailed on pages 7 and 9. These capacities are figured according to the formula authorized by the American Society of Mechanical Engineers' Boiler Code and are from actual boiler tests.

# High Capacity Pop Safety Valves



C. I. Style, Cast Iron



C. S. Style, Cast Steel

## SPECIFICATIONS

| Valve Parts    | C. I. Style (cast iron)<br>For Saturated Steam<br>Maximum Pressure, 300 lbs. | C. S. Style (cast steel) for<br>Saturated or Superheated Steam<br>Maximum Pressure 400 lbs. |
|----------------|--|---|
| Body and Head  | Cast Iron  | Cast Steel  |
| Seat Bushing   | Bronze or Nickel   | Nickel  |
| Wing Valve     | Bronze   | Nickel  |
| Pop Regulators | Bronze   | Nickel or Bronze  |
| Spring         | Crueible Steel   | Crueible Steel  |
| Spindle        | Steel  | Steel   |
| Fork and Lever | Malleable Iron   | Malleable Iron  |

These valves fully conform to the requirements of the American Society of Mechanical Engineers' Boiler Code and with all State and City Regulations, and have been approved by the United States Board of Supervising Inspectors of Steam Vessels. They are likewise registered in the Dominion of Canada. The C. I. Style Valve is regularly constructed with A. S. M. E. extra heavy standard inlet flanges (drilled only when specified) with female threaded outlets. The C. S. Style Valve is regularly made with A. S. M. E. 400-pound standard inlet flange. Relieving capacities charted on page 7; dimensions on page 11; and part list on page 12.

We are prepared to furnish valves of cast steel for pressures exceeding 400 pounds. See page 19.

|  |    |    |     |     |     |     |
|--|----|----|-----|-----|-----|-----|
| Size Valve, inches . . . . .           | 2  | 2½ | 3   | 3½  | 4   | 4½  |
| Diameter of Inlet Flange, inches .     | 6½ | 7½ | 8¼  | 9   | 10  | 10½ |
| Outlet (Standard Pipe Size), inches    | 3  | 3½ | 4   | 4½  | 5   | 6   |
| Weight, pounds (C. I. Style) . . . . . | 85 | 95 | 130 | 148 | 196 | 242 |

Orders should always specify style number of valve, size and maximum working pressure and whenever possible the total heating surface and maximum rating of boiler. If to be used on superheated steam, specify maximum temperature.

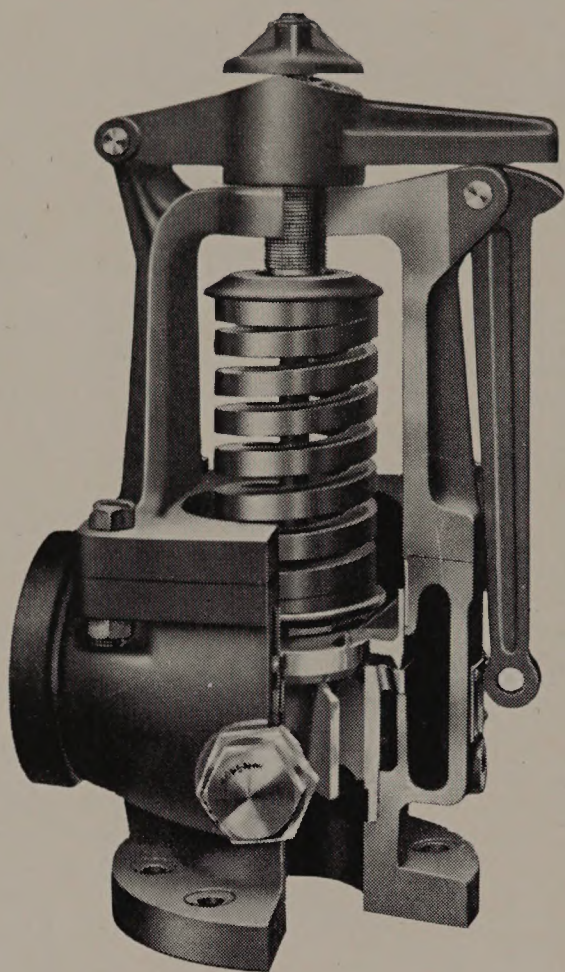
PRICES ON APPLICATION

# Discharge Capacities of Ashton C. I. and C. S. Style Pop Safety Valves in pounds of steam per hour

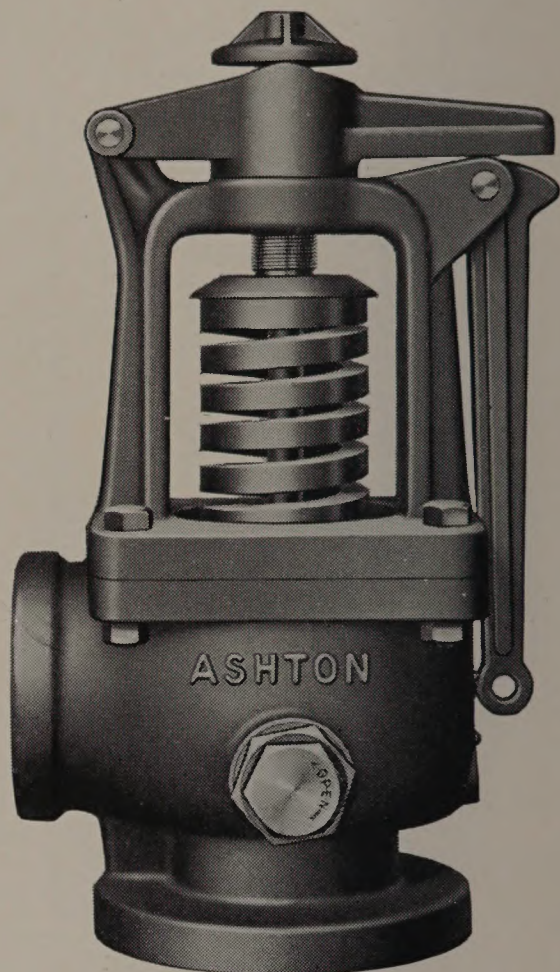
| Lbs. Pressure per<br>Square Inch Gage | Valve Sizes |           |          |           |          |           |
|---------------------------------------|-------------|-----------|----------|-----------|----------|-----------|
|                                       | 2 Inches    | 2½ Inches | 3 Inches | 3½ Inches | 4 Inches | 4½ Inches |
| 10                                    | 1,370       | 1,900     | 2,500    | 3,100     | 3,900    | 4,600     |
| 15                                    | 1,600       | 2,300     | 3,000    | 3,700     | 4,700    | 5,400     |
| 20                                    | 1,880       | 2,600     | 3,500    | 4,300     | 5,400    | 6,300     |
| 25                                    | 2,140       | 3,000     | 4,000    | 4,800     | 6,100    | 7,200     |
| 30                                    | 2,400       | 3,400     | 4,500    | 5,400     | 6,900    | 8,000     |
| 35                                    | 2,630       | 3,700     | 4,900    | 6,000     | 7,600    | 8,600     |
| 40                                    | 2,870       | 4,000     | 5,400    | 6,500     | 8,300    | 9,700     |
| 45                                    | 3,100       | 4,400     | 5,800    | 7,000     | 9,000    | 10,500    |
| 50                                    | 3,340       | 4,700     | 6,200    | 7,500     | 9,600    | 11,200    |
| 55                                    | 3,560       | 5,000     | 6,700    | 8,000     | 10,300   | 12,000    |
| 60                                    | 3,780       | 5,300     | 7,100    | 8,500     | 10,900   | 12,800    |
| 65                                    | 4,000       | 5,700     | 7,500    | 9,000     | 11,500   | 13,600    |
| 70                                    | 4,200       | 6,000     | 7,900    | 9,500     | 12,100   | 14,300    |
| 75                                    | 4,400       | 6,200     | 8,300    | 10,000    | 12,700   | 15,100    |
| 80                                    | 4,600       | 6,600     | 8,700    | 10,500    | 13,300   | 15,800    |
| 85                                    | 4,800       | 6,900     | 9,100    | 10,900    | 13,900   | 16,500    |
| 90                                    | 4,900       | 7,100     | 9,500    | 11,400    | 14,400   | 17,200    |
| 95                                    | 5,100       | 7,400     | 9,900    | 11,800    | 15,000   | 17,800    |
| 100                                   | 5,300       | 7,700     | 10,300   | 12,200    | 15,500   | 18,500    |
| 105                                   | 5,500       | 8,000     | 10,600   | 12,600    | 16,100   | 19,200    |
| 110                                   | 5,700       | 8,200     | 11,000   | 13,000    | 16,500   | 19,900    |
| 115                                   | 5,900       | 8,500     | 11,300   | 13,400    | 17,000   | 20,400    |
| 120                                   | 6,000       | 8,700     | 11,600   | 13,700    | 17,500   | 21,000    |
| 125                                   | 6,200       | 9,000     | 11,900   | 14,100    | 18,000   | 21,700    |
| 130                                   | 6,400       | 9,200     | 12,200   | 14,500    | 18,500   | 22,400    |
| 135                                   | 6,500       | 9,400     | 12,600   | 14,900    | 18,900   | 22,900    |
| 140                                   | 6,600       | 9,600     | 12,900   | 15,200    | 19,400   | 23,500    |
| 145                                   | 6,800       | 9,900     | 13,200   | 15,500    | 19,800   | 24,100    |
| 150                                   | 6,900       | 10,100    | 13,400   | 15,900    | 20,200   | 24,600    |
| 155                                   | 7,100       | 10,300    | 13,700   | 16,200    | 20,600   | 25,200    |
| 160                                   | 7,200       | 10,500    | 14,000   | 16,500    | 21,000   | 25,700    |
| 165                                   | 7,300       | 10,700    | 14,200   | 16,800    | 21,300   | 26,300    |
| 170                                   | 7,400       | 10,900    | 14,500   | 17,000    | 21,700   | 26,700    |
| 175                                   | 7,500       | 11,000    | 14,800   | 17,300    | 22,000   | 27,300    |
| 180                                   | 7,700       | 11,200    | 15,000   | 17,600    | 22,300   | 27,800    |
| 185                                   | 7,800       | 11,400    | 15,200   | 17,900    | 22,600   | 28,200    |
| 190                                   | 7,900       | 11,600    | 15,500   | 18,200    | 23,000   | 28,700    |
| 195                                   | 7,900       | 11,800    | 15,600   | 18,400    | 23,200   | 29,200    |
| 200                                   | 8,000       | 11,900    | 15,900   | 18,700    | 23,500   | 29,600    |
| 210                                   | 8,200       | 12,200    | 16,300   | 19,000    | 24,000   | 30,400    |
| 220                                   | 8,400       | 12,500    | 16,700   | 19,500    | 24,500   | 31,200    |
| 230                                   | 8,500       | 12,700    | 17,000   | 19,800    | 25,000   | 32,000    |
| 240                                   | 8,600       | 12,900    | 17,200   | 20,100    | 25,300   | 32,600    |
| 250                                   | 8,700       | 13,100    | 17,500   | 20,400    | 25,600   | 33,300    |
| 260                                   | 8,900       | 13,300    | 17,600   | 20,800    | 26,300   | 33,900    |
| 270                                   | 8,900       | 13,500    | 17,700   | 21,000    | 26,800   | 34,400    |
| 280                                   | 9,100       | 13,700    | 17,700   | 21,400    | 27,400   | 35,000    |
| 290                                   | 9,200       | 13,800    | 17,700   | 21,600    | 27,900   | 35,500    |
| 300                                   | 9,200       | 13,900    | 17,700   | 21,800    | 28,400   | 35,900    |
| 310                                   | 9,300       | 14,000    | 17,900   | 22,100    | 28,900   | 36,600    |
| 320                                   | 9,300       | 14,200    | 18,100   | 22,400    | 29,200   | 37,200    |
| 330                                   | 9,300       | 14,400    | 18,300   | 22,700    | 29,600   | 37,800    |
| 340                                   | 9,400       | 14,500    | 18,500   | 22,900    | 29,800   | 38,400    |
| 350                                   | 9,400       | 14,600    | 18,600   | 23,200    | 30,200   | 38,900    |
| 360                                   | 9,400       | 14,700    | 18,800   | 23,300    | 30,400   | 39,400    |
| 370                                   | 9,400       | 14,800    | 18,900   | 23,600    | 30,600   | 39,900    |
| 380                                   | 9,400       | 14,800    | 19,000   | 23,700    | 30,800   | 40,300    |
| 390                                   | 9,400       | 14,900    | 19,200   | 23,800    | 31,000   | 40,700    |
| 400                                   | 9,400       | 14,900    | 19,200   | 24,000    | 31,000   | 41,100    |

C. I. Style Valves are recommended for pressures up to and including 300 pounds; the C. S. Style (cast steel) for pressures 300 to 400 pounds inclusive, and for high temperatures or superheated steam. To figure the discharge of FREE AIR in cubic feet per minute multiply charted values by .24.

# The Ashton Moderate Capacity Pop Safety Valves



C. I. M. Style (Cast Iron)  
For Saturated Steam  
Maximum Pressure 300 Pounds



C. S. M. Style (Cast Steel)  
For Saturated or Superheated Steam  
Maximum Pressure 400 Pounds

The Ashton Moderate Capacity Pop Safety Valves are of the same general construction as the C. I. and C. S. Style Valves, but have a more moderate relieving capacity. Complete specifications and points of mechanical superiority are given in detail on preceding pages 2 to 6 inclusive. These moderate capacity valves are designed more particularly for replacements of safety valves on old boiler installations, where large relieving capacity is not required.

The C. I. M. Style Valve is regularly constructed with A. S. M. E. extra heavy standard inlet flanges (drilled only when so specified) with female threaded outlet. The C. S. M. Style Valve is regularly made with A. S. M. E. 400-pound standard inlet flanges.

We are prepared to furnish valves of cast steel for pressures exceeding 400 pounds, per page 19.

Relieving capacities of these moderate capacity valves are charted on page 9; dimensions, page 11; and part list, page 12.

|                                      |    |    |     |     |     |     |
|--------------------------------------|----|----|-----|-----|-----|-----|
| Size Valve, inches . . . . .         | 2  | 2½ | 3   | 3½  | 4   | 4½  |
| Diameter of Inlet Flange, inches . . | 6½ | 7½ | 8¼  | 9   | 10  | 10½ |
| Outlet (Standard Pipe Size), inches  | 3  | 3½ | 4   | 4½  | 5   | 6   |
| Weight, Pounds (C. I. Style) . . . . | 85 | 95 | 130 | 148 | 196 | 242 |

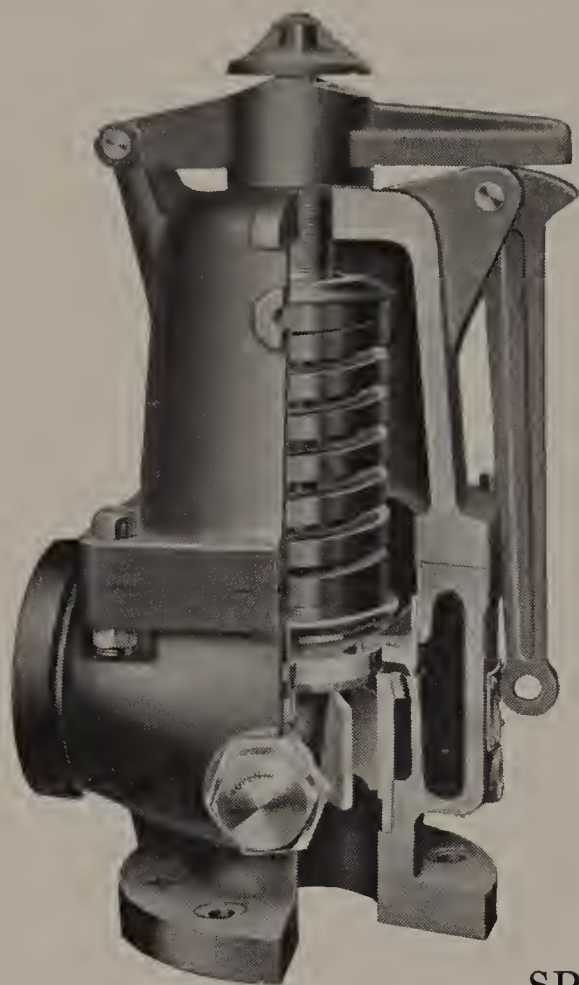
Orders should always specify style number of valve, size and maximum working pressure and, wherever possible, the total heating surface and maximum rating of boiler. If to be used on superheated steam specify maximum temperature.

PRICES ON APPLICATION

# Discharge Capacities of Ashton C. I. M. and C. S. M. Style (Moderate Capacity) Pop Safety Valves in pounds of steam per hour

| Lbs. Pressure per<br>Square Inch Gage | Valve Sizes |           |          |           |          |           |
|---------------------------------------|-------------|-----------|----------|-----------|----------|-----------|
|                                       | 2 Inches    | 2½ Inches | 3 Inches | 3½ Inches | 4 Inches | 4½ Inches |
| 10                                    | 685         | 950       | 1,250    | 1,550     | 1,950    | 2,300     |
| 15                                    | 800         | 1,150     | 1,500    | 1,850     | 2,350    | 2,700     |
| 20                                    | 940         | 1,300     | 1,750    | 2,150     | 2,700    | 3,150     |
| 25                                    | 1,070       | 1,500     | 2,000    | 2,400     | 3,050    | 3,600     |
| 30                                    | 1,200       | 1,700     | 2,250    | 2,700     | 3,450    | 4,000     |
| 35                                    | 1,315       | 1,850     | 2,450    | 3,000     | 3,800    | 4,300     |
| 40                                    | 1,435       | 2,000     | 2,700    | 3,250     | 4,150    | 4,850     |
| 45                                    | 1,550       | 2,200     | 2,900    | 3,500     | 4,500    | 5,250     |
| 50                                    | 1,670       | 2,350     | 3,100    | 3,750     | 4,800    | 5,600     |
| 55                                    | 1,780       | 2,500     | 3,350    | 4,000     | 5,150    | 6,000     |
| 60                                    | 1,890       | 2,650     | 3,550    | 4,250     | 5,450    | 6,400     |
| 65                                    | 2,000       | 2,850     | 3,750    | 4,500     | 5,750    | 6,800     |
| 70                                    | 2,100       | 3,000     | 3,950    | 4,750     | 6,050    | 7,150     |
| 75                                    | 2,200       | 3,100     | 4,150    | 5,000     | 6,350    | 7,550     |
| 80                                    | 2,300       | 3,300     | 4,350    | 5,250     | 6,650    | 7,900     |
| 85                                    | 2,400       | 3,450     | 4,550    | 5,450     | 6,950    | 8,250     |
| 90                                    | 2,450       | 3,550     | 4,750    | 5,700     | 7,200    | 8,600     |
| 95                                    | 2,550       | 3,700     | 4,950    | 5,900     | 7,500    | 8,900     |
| 100                                   | 2,650       | 3,850     | 5,150    | 6,100     | 7,750    | 9,250     |
| 105                                   | 2,750       | 4,000     | 5,300    | 6,300     | 8,050    | 9,600     |
| 110                                   | 2,850       | 4,100     | 5,500    | 6,500     | 8,250    | 9,950     |
| 115                                   | 2,950       | 4,250     | 5,650    | 6,700     | 8,500    | 10,200    |
| 120                                   | 3,000       | 4,350     | 5,800    | 6,850     | 8,750    | 10,500    |
| 125                                   | 3,100       | 4,500     | 5,950    | 7,050     | 9,000    | 10,850    |
| 130                                   | 3,200       | 4,600     | 6,100    | 7,250     | 9,250    | 11,200    |
| 135                                   | 3,250       | 4,700     | 6,300    | 7,450     | 9,450    | 11,450    |
| 140                                   | 3,300       | 4,800     | 6,450    | 7,600     | 9,700    | 11,750    |
| 145                                   | 3,400       | 4,950     | 6,600    | 7,750     | 9,900    | 12,050    |
| 150                                   | 3,450       | 5,050     | 6,700    | 7,950     | 10,100   | 12,300    |
| 155                                   | 3,550       | 5,150     | 6,850    | 8,100     | 10,300   | 12,600    |
| 160                                   | 3,600       | 5,250     | 7,000    | 8,250     | 10,500   | 12,850    |
| 165                                   | 3,650       | 5,350     | 7,100    | 8,400     | 10,650   | 13,150    |
| 170                                   | 3,700       | 5,450     | 7,250    | 8,500     | 10,850   | 13,350    |
| 175                                   | 3,750       | 5,500     | 7,400    | 8,650     | 11,000   | 13,650    |
| 180                                   | 3,850       | 5,600     | 7,500    | 8,800     | 11,150   | 13,900    |
| 185                                   | 3,900       | 5,700     | 7,600    | 8,950     | 11,300   | 14,100    |
| 190                                   | 3,950       | 5,800     | 7,750    | 9,100     | 11,500   | 14,350    |
| 195                                   | 3,950       | 5,900     | 7,800    | 9,200     | 11,600   | 14,600    |
| 200                                   | 4,000       | 5,950     | 7,950    | 9,350     | 11,750   | 14,800    |
| 210                                   | 4,100       | 6,100     | 8,150    | 9,500     | 12,000   | 15,200    |
| 220                                   | 4,200       | 6,250     | 8,350    | 9,750     | 12,250   | 15,600    |
| 230                                   | 4,250       | 6,350     | 8,500    | 9,900     | 12,500   | 16,000    |
| 240                                   | 4,300       | 6,450     | 8,600    | 10,050    | 12,650   | 16,300    |
| 250                                   | 4,350       | 6,550     | 8,750    | 10,200    | 12,800   | 16,650    |
| 260                                   | 4,450       | 6,650     | 8,800    | 10,400    | 13,150   | 16,950    |
| 270                                   | 4,450       | 6,750     | 8,850    | 10,500    | 13,400   | 17,200    |
| 280                                   | 4,550       | 6,850     | 8,850    | 10,700    | 13,700   | 17,500    |
| 290                                   | 4,600       | 6,900     | 8,850    | 10,800    | 13,950   | 17,750    |
| 300                                   | 4,600       | 6,950     | 8,850    | 10,900    | 14,200   | 17,950    |
| 310                                   | 4,650       | 7,000     | 8,950    | 11,050    | 14,450   | 18,300    |
| 320                                   | 4,650       | 7,100     | 9,050    | 11,200    | 14,600   | 18,600    |
| 330                                   | 4,650       | 7,200     | 9,150    | 11,350    | 14,800   | 18,900    |
| 340                                   | 4,700       | 7,250     | 9,250    | 11,450    | 14,900   | 19,200    |
| 350                                   | 4,700       | 7,300     | 9,300    | 11,600    | 15,100   | 19,450    |
| 360                                   | 4,700       | 7,350     | 9,400    | 11,650    | 15,200   | 19,700    |
| 370                                   | 4,700       | 7,400     | 9,450    | 11,800    | 15,300   | 19,950    |
| 380                                   | 4,700       | 7,400     | 9,500    | 11,850    | 15,400   | 20,150    |
| 390                                   | 4,700       | 7,450     | 9,600    | 11,900    | 15,500   | 20,350    |
| 400                                   | 4,700       | 7,450     | 9,600    | 12,000    | 15,500   | 20,550    |

C. I. M. Style Valves are recommended for pressures up to and including 300 pounds; the C. S. M. Style (cast steel) for pressures 300 to 400 pounds inclusive, and for high temperatures of superheated steam. To figure the discharge of FREE AIR in cubic feet per minute, multiply charted values by .24.



# The Ashton Pop Safety Valves

WITH ENCLOSED SPRING HEAD

C.S.-10 Style  
(High Capacity) Cast Steel

C.S.M.-10 Style  
(Moderate Capacity) Cast Steel

C.I.-10 Style  
(High Capacity) Cast Iron

C.I.M.-10 Style  
(Moderate Capacity) Cast Iron

*The above valve with enclosed spring head  
construction is particularly desirable  
for marine service*

## SPECIFICATIONS

| Valve Parts | C. I.-10 Style (cast iron)<br>C. I. M.-10 Style (cast iron)<br>For Saturated Steam<br>Maximum Pressure 300 lbs. | C. S.-10 Style (cast steel)<br>C. S. M.-10 Style (cast steel)<br>For Saturated or Superheated<br>Steam. Max. Pressure 400 lbs. |
|-------------|---|--|
|             | Body and Head<br>Seat Bushing<br>Wing Valve<br>Pop Regulators<br>Spring<br>Spindle<br>Fork and Lever            | Cast Iron<br>Bronze or Nickel<br>Bronze<br>Bronze<br>Crucible Steel<br>Steel<br>Malleable Iron                                 |

The enclosed head prevents the escape of steam into the fire room and protects the interior parts from dirt or other foreign matter. It is made in the C. I.-10 Style (cast iron); C. S.-10 Style (cast steel); high relieving capacity, as charted on page 7, also C. I. M.-10 Style (cast iron); C. S. M.-10 Style (cast steel); moderate relieving capacity, as charted on page 9. Ashton Valves have been approved by the United States Board of Supervising Inspectors of Steam Vessels, Bureau of Steam Engineering United States Navy Department, and fully conform to the requirements of the American Society of Mechanical Engineers' Boiler Code, and with all State and City Regulations, and are also registered in the Dominion of Canada. They are regularly constructed with A. S. M. E. extra heavy standard inlet flanges (drilled only when specified) and with female threaded outlets.

For marine service we recommend valves with moderate relieving capacity as charted on page 9 and when so specified valves will be furnished with flanged outlets. For dimensions see page 11; part list, page 12.

Excessive length, or reduced outlet piping should be avoided, to eliminate possible back pressure on the valve, which will interfere with the pop control.

|                                     |    |     |     |     |     |     |
|-------------------------------------|----|-----|-----|-----|-----|-----|
| Size Valve, inches . . . . .        | 2  | 2½  | 3   | 3½  | 4   | 4½  |
| Diameter of Inlet Flange, inches    | 6½ | 7½  | 8¼  | 9   | 10  | 10½ |
| Outlet (Standard Pipe Size), inches | 3  | 3½  | 4   | 4½  | 5   | 6   |
| Weight, pounds . . . . .            | 95 | 105 | 140 | 160 | 210 | 260 |

PRICES ON APPLICATION

# The Ashton Pop Safety Valves

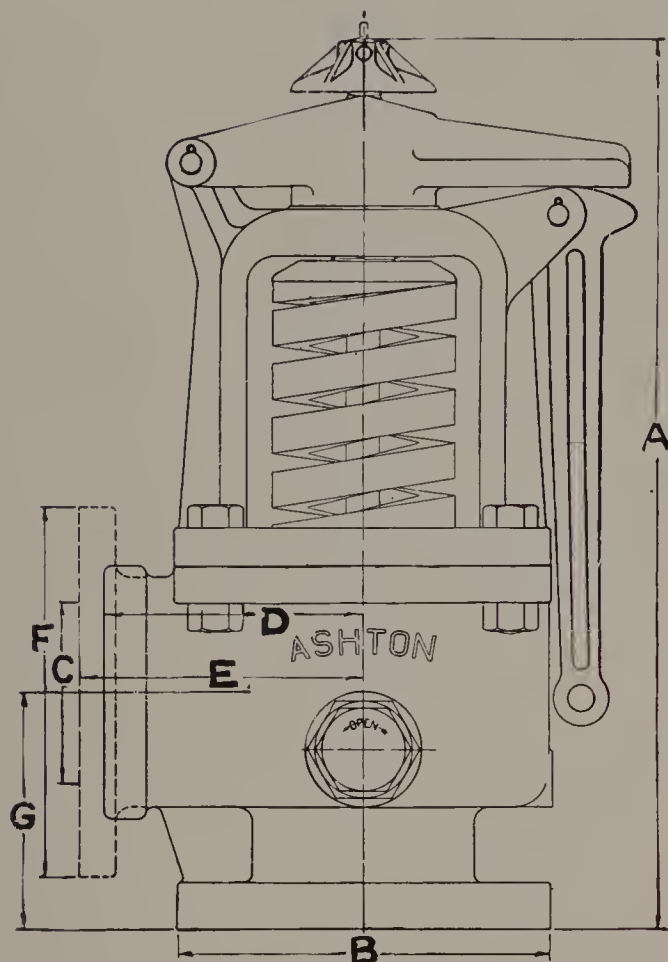
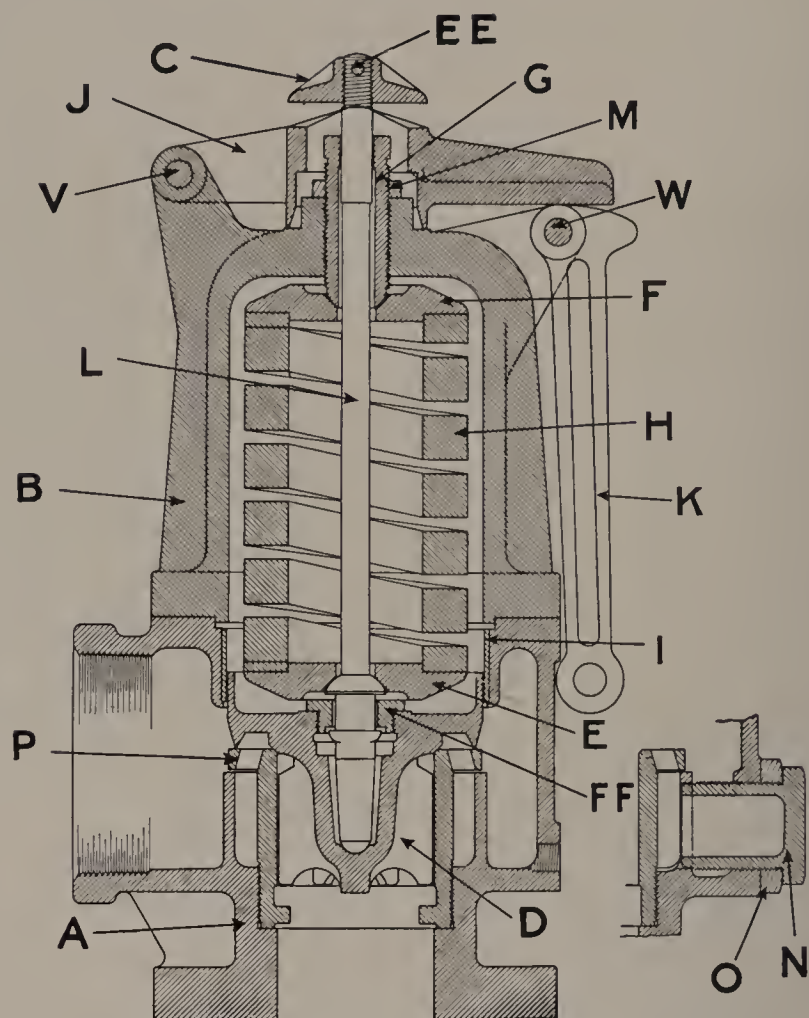


TABLE OF DIMENSIONS

Ashton C. I.; C. I.-10; C. S.; C. S.-10; C. I. M., C. I. M.-10, C. S. M.  
and C. S. M.-10 Valves

| Size | A                | B               | C              | D               | E              | F              | G                |
|------|------------------|-----------------|----------------|-----------------|----------------|----------------|------------------|
| 2    | $18\frac{7}{16}$ | $6\frac{1}{2}$  | 3              | 5               | $5\frac{3}{4}$ | $7\frac{1}{2}$ | $4\frac{5}{8}$   |
| 2½   | $19\frac{3}{8}$  | $7\frac{1}{2}$  | $3\frac{1}{2}$ | $5\frac{1}{2}$  | $6\frac{3}{8}$ | $8\frac{1}{2}$ | $5\frac{1}{4}$   |
| 3    | $21\frac{7}{8}$  | $8\frac{1}{4}$  | 4              | $5\frac{5}{8}$  | $6\frac{7}{8}$ | 9              | $5\frac{5}{8}$   |
| 3½   | $21\frac{7}{8}$  | 9               | $4\frac{1}{2}$ | $6\frac{5}{16}$ | $6\frac{3}{4}$ | $9\frac{1}{4}$ | $5\frac{3}{4}$   |
| 4    | $24\frac{1}{8}$  | 10              | 5              | 7               | $7\frac{5}{8}$ | 10             | $6\frac{7}{16}$  |
| 4½   | $25\frac{3}{4}$  | $10\frac{1}{2}$ | 6              | $7\frac{1}{2}$  | $8\frac{1}{2}$ | 11             | $6\frac{15}{16}$ |

# The Ashton Pop Safety Valves



## LIST OF PARTS

Ashton C. I., C. I.-10, C. I. M., C. I. M.-10; C. S., C. S.-10, C. S. M.  
and C. S. M.-10 Valves

| Name of Part                       | Letter |
|------------------------------------|--------|
| Body.....                          | A      |
| Head.....                          | B      |
| Cap.....                           | C      |
| Cap Lock Nut.....                  |        |
| Wing Valve { Bronze.....           | D      |
| Wing Valve { Nickel.....           |        |
| Wing Valve Lock Nut.....           | FF     |
| Bottom Disc.....                   | E      |
| Top Disc.....                      | F      |
| Pressure Screw.....                | G      |
| Spring.....                        | H      |
| Head Ring.....                     | I      |
| Fork.....                          | J      |
| Lever.....                         | K      |
| Spindle.....                       | L      |
| Spindle Key.....                   | EE     |
| Spindle (For Lock Attachment)..... |        |
| Pressure Serew Cheek Nut.....      | M      |
| Regulator { Bronze.....            | N      |
| Regulator { Nickel.....            |        |
| Regulator Check Nut.....           | O      |
| Seat Bushing { Bronze.....         | P      |
| Seat Bushing { Nickel.....         |        |
| Fork Pin.....                      | V      |
| Lever Pin.....                     | W      |
| Body Bolts and Nuts.....           |        |
| Data Plate.....                    |        |

In ordering new parts, it is necessary to specify size of valve, style number, name of part and letter, also serial number of valve, and if new springs are ordered, the working pressure.

# The Ashton Safety Valve Yokes



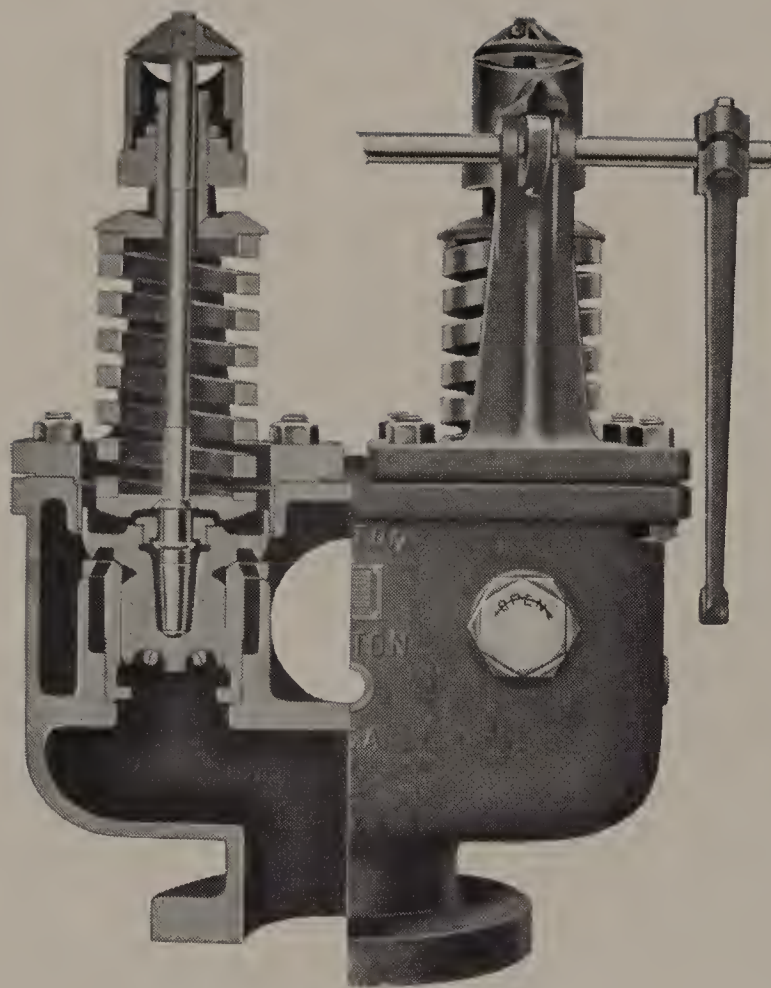
11A Style

These Yokes are of the same grade of cast iron as the Ashton Cast Iron Valves, are of extra heavy construction and designed for 300 pounds. The flanges are faced, and when specified on order, are drilled A. S. M. E. extra heavy standard (without extra charge).

We are prepared to furnish yokes of cast steel, for use with the Ashton Cast Steel Valves suitable for higher pressures. When so ordered valves will be mounted on yokes, at an extra charge.

|  |    |     |     |     |     |     |
|--|----|-----|-----|-----|-----|-----|
| Size, inches.....  | 2  | 2½  | 3   | 3½  | 4   | 4½  |
| Diameter Top Flanges, inches.....                            | 6½ | 7½  | 8¼  | 9   | 10  | 10½ |
| Diameter Bottom Flange, inches.....                          | 8¼ | 9   | 10½ | 11  | 12½ | 14  |
| Diameter Inlet Hole, inches.....                             | 3  | 3½  | 4¼  | 5   | 6   | 6¾  |
| Distance between centers of Top Flanges, inches.....         | 10 | 11¼ | 12¾ | 13¼ | 14½ | 16½ |
| Distance between face of Top and Bottom Flanges, inches..... | 6⅓ | 7½  | 8⅛  | 9¾  | 10  | 10⅕ |
| Weight, pounds, Cast Iron.....                               | 52 | 70  | 105 | 127 | 178 | 199 |

PRICES ON APPLICATION



D.I.-11 Style (Cast Iron)  
For Saturated Steam  
Maximum Pressure, 300 pounds

# The Ashton Duplex Pop Safety Valves

WITH EXPOSED SPRINGS

D.I.-Style  
(Without Rocker Shaft)

D.I.-11 Style  
(With Rocker Shaft)

For Saturated Steam

Stationary and Marine Boilers

## SPECIFICATIONS

|                  |                  |
|------------------|------------------|
| Body and Heads   | Cast Iron        |
| Seat Bushings    | Bronze or Nickel |
| Wing Valves      | Bronze           |
| Pop Regulators   | Bronze           |
| Springs          | Crucible Steel   |
| Spindles         | Steel            |
| Forks and Levers | Malleable Iron   |

The Ashton Duplex Valve body is a one-piece casting, requiring only one connection to the boiler, and has a single outlet connection, thus minimizing the possible leakage at boiler connection joints. It is considered good engineering practice to use duplex valves on boilers, especially of the water tube type, for the single boiler connection economizes space.

The Ashton Valves are especially adapted for marine service, and have been approved by the United States Board of Supervising Inspectors of Steam Vessels, Bureau of Steam Engineering United States Navy Department, and when so specified are made to conform to Lloyd's Register. When specially ordered they (D. I.-11 Style) are fitted with rocker shaft single lever for lifting the valves from their seats in succession, as illustrated above, for which there is an extra charge.

These valves are of the moderate capacity type with the inlet and outlet openings both of the same size and are regularly constructed with A. S. M. E. extra heavy standard inlet and 125-pound standard outlet flanges, drilled only when so specified. For pressures in excess of 150 pounds we recommend nickel seat bushings.

Excessive length, or reduced outlet piping should especially be avoided, to eliminate possible back pressure which will interfere with the pop control.

Relieving capacity of these valves is charted on page 16; dimensions on page 17; and part list on page 18.

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| Size Valve, inches . . . . .                | 2   | 2½  | 3   | 3½  | 4   | 4½  |
| Diameter of Inlet Flange, inches . . . . .  | 8¼  | 9   | 10½ | 11  | 12½ | 14  |
| Diameter of Outlet Flange, inches . . . . . | 7½  | 8½  | 9¼  | 10  | 11  | 12½ |
| Weight, pounds (approximate) . . . . .      | 250 | 330 | 410 | 420 | 460 | 580 |

Orders should always specify style number of valve, size and maximum working pressure, also rocker shaft if required, and, wherever possible, the total heating surface and maximum rating of boiler. When rocker shaft is desired order should specify on which end lever is to be placed when facing outlet.

PRICES ON APPLICATION

# The Ashton Duplex Pop Safety Valves

WITH ENCLOSED SPRING HEADS

D.I.-10 Style  
Cast Iron (Moderate Capacity)  
For Saturated Steam,  
Marine and Stationary Boilers

## SPECIFICATIONS

| Valve Parts      | C. I. Style (cast iron)<br>For Saturated Steam<br>Maximum Pressure, 300 lbs. |
|------------------|--|
| Body and Heads   | Cast Iron  |
| Seat Bushings    | Bronze or Nickel   |
| Wing Valves      | Bronze   |
| Pop Regulators   | Bronze   |
| Springs          | Crucible Steel   |
| Spindles         | Steel  |
| Forks and Levers | Malleable Iron   |

The Ashton D.I.-10 Style Duplex Valve above illustrated is made with enclosed spring head, and is particularly desirable for marine service.

The enclosed head prevents the escape of steam into the fire room and protects the interior parts from dirt or other foreign matter; otherwise the construction is the same as the D. I. Style Duplex Valve, as described on page 14. Ashton Valves have been approved by the United States Board of Supervising Inspectors of Steam Vessels, Bureau of Steam Engineering United States Navy Department. When so specified these valves are made to conform to Lloyd's Register; when specially ordered are fitted with rocker shaft single lever for lifting the valves from their seats in succession, for which there is an extra charge, and should be ordered as D. I.-12 Style.

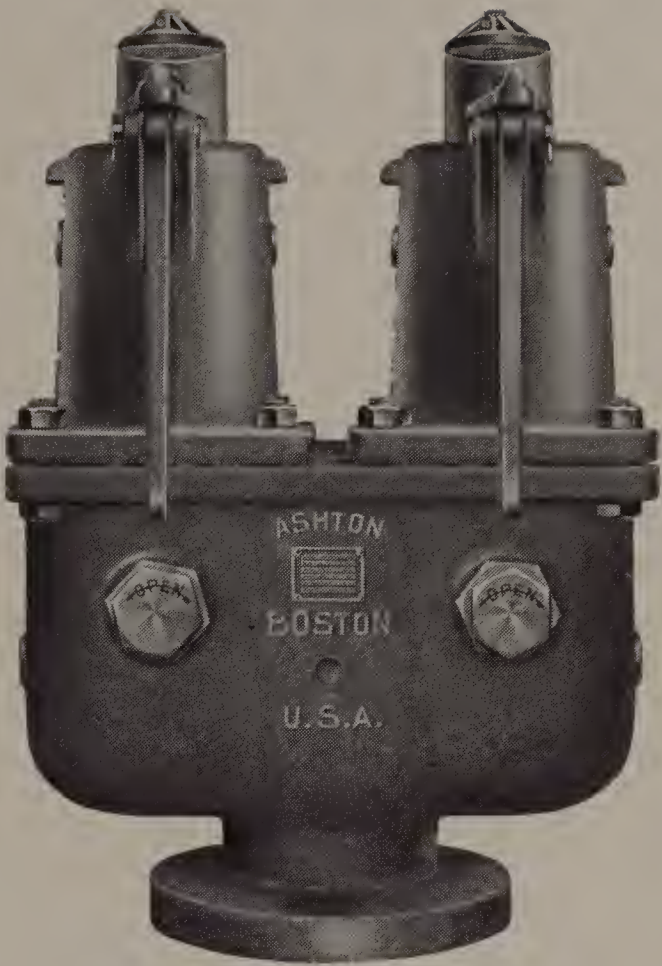
The Ashton D. I.-10 and D. I.-12 Style Valves are of the moderate capacity type with inlet and outlet openings both of the same size, and are regularly constructed with A. S. M. E. 250-pound standard inlet and 125-pound standard outlet flanges, drilled only when so specified. For pressures in excess of 150 pounds we recommend nickel seat bushings.

Excessive length, or reduced outlet piping, should especially be avoided to eliminate possible back pressure which will interfere with the pop control. Relieving capacity is charted on page 16; dimensions on page 17; and part list on page 18.

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| Size Valve, inches . . . . .                | 2   | 2½  | 3   | 3½  | 4   | 4½  |
| Diameter of Inlet Flange, inches . . . . .  | 8¼  | 9   | 10½ | 11  | 12½ | 14  |
| Diameter of Outlet Flange, inches . . . . . | 7½  | 8½  | 9¼  | 10  | 11  | 12½ |
| Weight, pounds (approximate) . . . . .      | 260 | 345 | 430 | 450 | 480 | 510 |

Orders should always specify style number of valve, size and maximum working pressure, also rocker shaft if required, and whenever possible the total heating surface and maximum rating of boiler. When rocker shaft is desired order should specify on which end lever is to be placed when facing outlet.

PRICES ON APPLICATION



D.I.-10 Style (Cast Iron)  
With Enclosed Spring Heads  
For Saturated Steam  
Maximum Pressure 300 Pounds

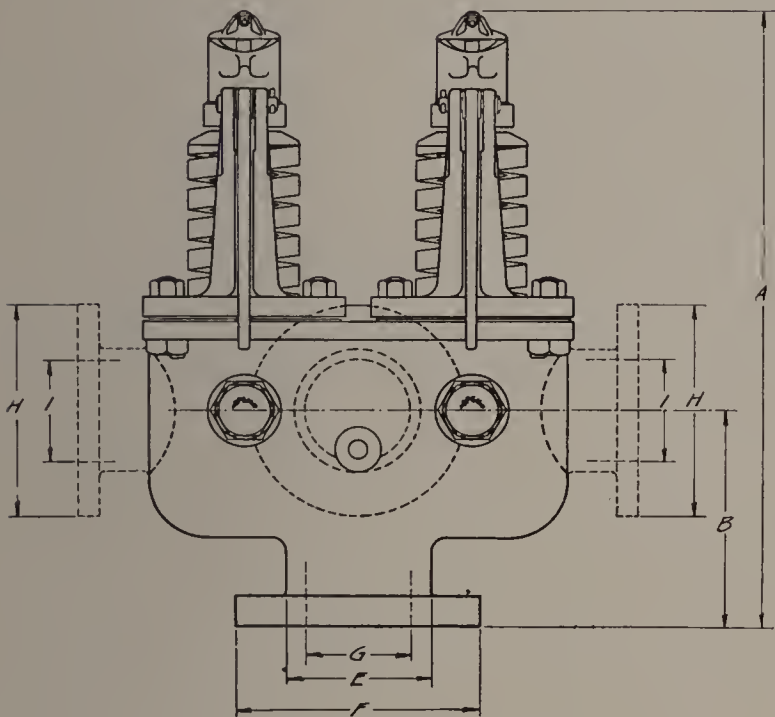
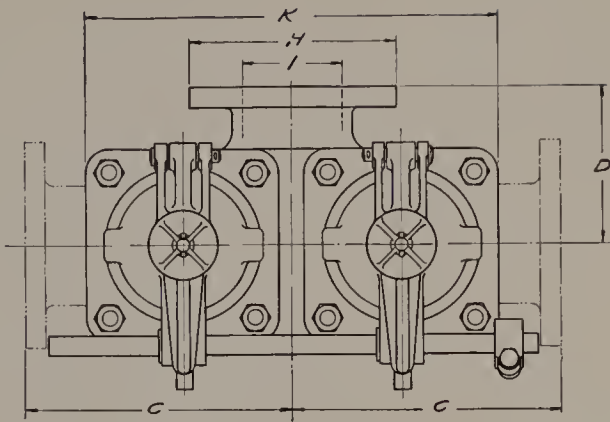
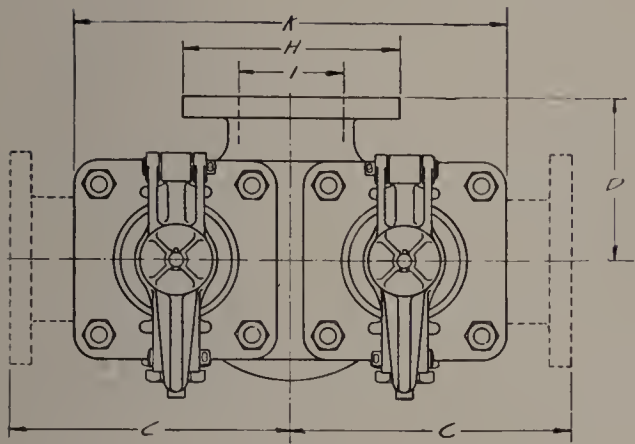
# The Ashton Duplex Pop Safety Valves

Discharge Capacities of Ashton D. I., D. I.-10, D. I.-11  
and D. I.-12 Style Pop Safety Valves in pounds  
of steam per hour

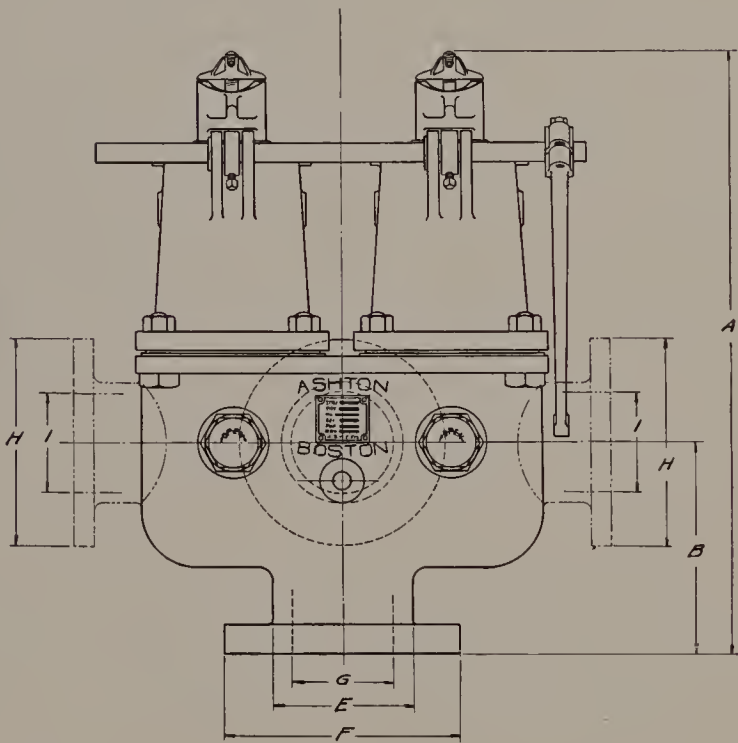
| <i>Lbs. Pressure per<br/>Square Inch Gage</i> | <i>Size</i>     |                  |                 |                  |                 |                  |
|---|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|   | <i>2 Inches</i> | <i>2½ Inches</i> | <i>3 Inches</i> | <i>3½ Inches</i> | <i>4 Inches</i> | <i>4½ Inches</i> |
| 15  | 2,200           | 2,900            | 4,000           | 5,100            | 6,100           | 6,800            |
| 20  | 2,600           | 3,400            | 4,600           | 5,900            | 7,100           | 8,000            |
| 25  | 3,000           | 3,900            | 5,300           | 6,800            | 8,100           | 9,100            |
| 30  | 3,300           | 4,400            | 6,000           | 7,600            | 9,100           | 10,200           |
| 35  | 3,700           | 4,900            | 6,600           | 8,500            | 10,100          | 11,400           |
| 40  | 4,100           | 5,400            | 7,300           | 9,300            | 11,100          | 12,500           |
| 45  | 4,400           | 5,900            | 7,900           | 10,200           | 12,100          | 13,600           |
| 50  | 4,800           | 6,400            | 8,600           | 11,000           | 13,100          | 14,800           |
| 55  | 5,200           | 6,900            | 9,300           | 11,900           | 14,100          | 15,900           |
| 60  | 5,600           | 7,400            | 9,900           | 12,700           | 15,200          | 17,000           |
| 65  | 5,900           | 7,800            | 10,600          | 13,400           | 16,200          | 18,200           |
| 70  | 6,300           | 8,000            | 11,200          | 14,100           | 17,200          | 19,300           |
| 75  | 6,500           | 8,300            | 11,900          | 14,900           | 18,000          | 20,600           |
| 80  | 6,700           | 8,700            | 12,400          | 15,600           | 18,800          | 21,400           |
| 85  | 6,800           | 9,000            | 12,900          | 16,100           | 19,600          | 22,200           |
| 90  | 7,000           | 9,300            | 13,300          | 16,500           | 20,400          | 22,900           |
| 95  | 7,200           | 9,600            | 13,700          | 16,900           | 21,000          | 23,600           |
| 100   | 7,400           | 10,000           | 14,000          | 17,400           | 21,000          | 24,300           |
| 105   | 7,600           | 10,000           | 14,200          | 17,900           | 21,300          | 25,300           |
| 110   | 7,800           | 10,400           | 14,800          | 18,400           | 22,000          | 26,100           |
| 115   | 8,000           | 10,700           | 15,300          | 19,000           | 22,800          | 27,000           |
| 120   | 8,300           | 11,200           | 16,000          | 19,800           | 23,800          | 28,000           |
| 125   | 8,600           | 11,500           | 16,600          | 20,500           | 24,600          | 29,000           |
| 130   | 8,900           | 11,900           | 17,200          | 21,200           | 25,500          | 30,100           |
| 135   | 9,200           | 12,300           | 17,800          | 21,900           | 26,400          | 31,200           |
| 140   | 9,500           | 12,700           | 18,400          | 22,600           | 27,300          | 32,100           |
| 145   | 10,000          | 13,200           | 18,900          | 23,400           | 28,100          | 33,200           |
| 150   | 10,200          | 13,600           | 19,500          | 24,100           | 29,000          | 34,400           |
| 155   | 10,500          | 14,000           | 20,000          | 24,800           | 29,900          | 35,300           |
| 160   | 10,800          | 14,400           | 20,700          | 25,500           | 30,700          | 36,300           |
| 165   | 11,000          | 14,800           | 21,300          | 26,300           | 31,600          | 37,400           |
| 170   | 11,400          | 15,300           | 21,900          | 27,000           | 32,500          | 38,400           |
| 175   | 11,700          | 15,600           | 22,500          | 27,900           | 33,400          | 39,400           |
| 180   | 12,000          | 16,000           | 23,100          | 28,500           | 34,300          | 40,500           |
| 185   | 12,300          | 16,500           | 23,700          | 29,300           | 35,200          | 41,500           |
| 190   | 12,600          | 16,900           | 24,300          | 29,900           | 36,000          | 42,600           |
| 195   | 13,000          | 17,300           | 24,900          | 30,600           | 37,000          | 43,600           |
| 200   | 13,300          | 17,900           | 25,500          | 31,400           | 37,900          | 44,700           |
| 205   | 13,500          | 17,900           | 25,800          | 31,700           | 38,300          | 45,200           |
| 210   | 13,500          | 18,000           | 26,000          | 32,100           | 38,700          | 45,700           |
| 215   | 13,600          | 18,200           | 26,300          | 32,500           | 39,100          | 46,300           |
| 220   | 13,600          | 18,400           | 26,600          | 32,900           | 39,600          | 46,900           |
| 225   | 13,800          | 18,600           | 26,900          | 33,300           | 40,000          | 47,500           |
| 230   | 14,000          | 18,800           | 27,500          | 33,900           | 40,900          | 48,400           |
| 235   | 14,200          | 19,200           | 28,000          | 34,600           | 41,700          | 49,400           |
| 240   | 14,500          | 19,700           | 28,000          | 35,300           | 42,600          | 50,300           |
| 245   | 14,800          | 20,000           | 29,100          | 36,000           | 43,400          | 51,400           |
| 250   | 15,000          | 20,200           | 29,700          | 36,500           | 44,000          | 52,400           |

The Ashton D. I., D. I.-10, D. I.-11 and D. I.-12 Style (cast iron) Valves are recommended for pressures up to and including 300 pounds and relieving capacities for pressures above 250 pounds will be furnished on application. To figure the discharge of FREE AIR in cubic feet per minute multiply charted values by .24.

# The Ashton Duplex Pop Safety Valves



D. I. Style (Duplex)  
With Exposed Springs  
With Double Cam Levers

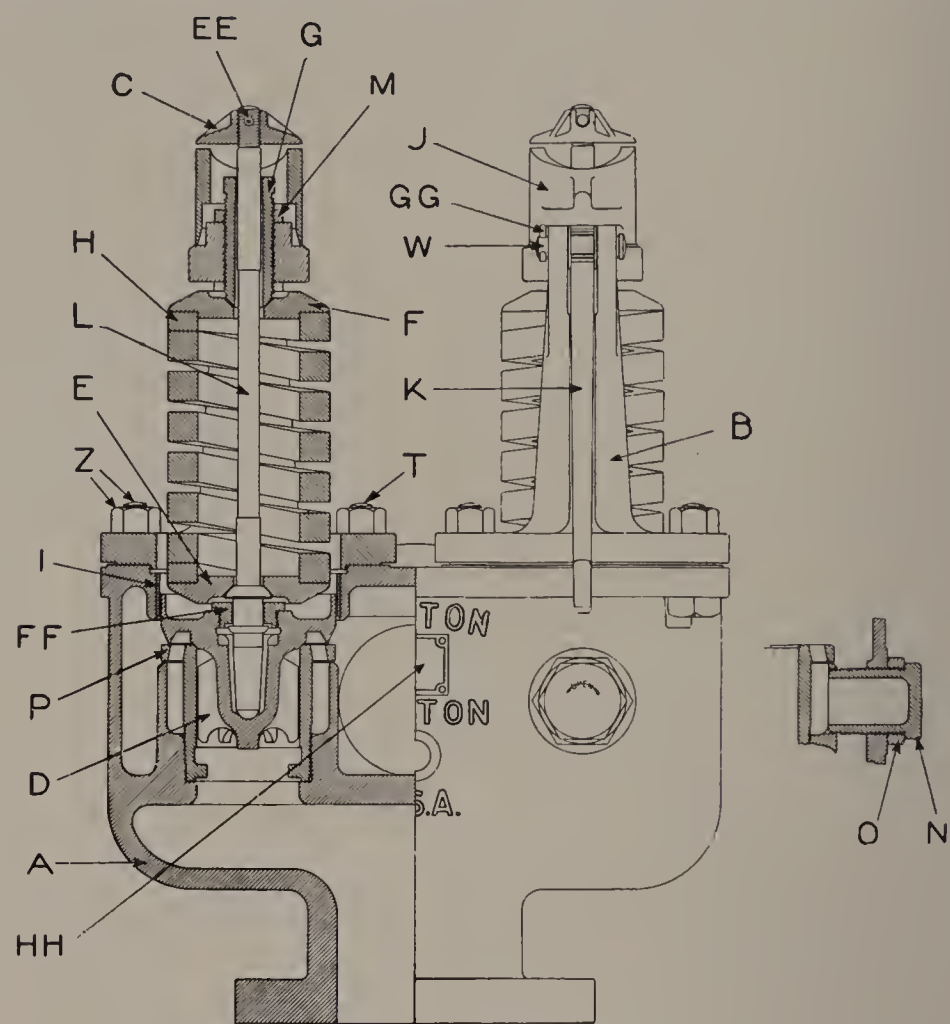


D. I.-12 Style (Duplex)  
With Enclosed Springs  
With Rocker Shaft Single Lever

TABLE OF DIMENSIONS  
Ashton D. I., D. I.-10, D. I.-11 and D. I.-12 Valves

| Size            | A                | B                | C                  | D                 | E                | F                | G                 | H                | I                 | K                |
|-----------------|------------------|------------------|--------------------|-------------------|------------------|------------------|-------------------|------------------|-------------------|------------------|
| 2               | 21 $\frac{1}{4}$ | 6 $\frac{5}{16}$ | 9 $\frac{1}{4}$    | 5 $\frac{11}{16}$ | 4 $\frac{1}{4}$  | 8 $\frac{1}{4}$  | 2 $\frac{7}{8}$   | 7 $\frac{1}{2}$  | 2 $\frac{7}{8}$   | 14               |
| 2 $\frac{1}{2}$ | 23 $\frac{1}{2}$ | 7 $\frac{1}{2}$  | 10 $\frac{7}{16}$  | 6 $\frac{3}{8}$   | 5 $\frac{1}{16}$ | 9                | 3 $\frac{9}{16}$  | 8 $\frac{1}{2}$  | 3 $\frac{9}{16}$  | 15 $\frac{3}{4}$ |
| 3               | 27 $\frac{1}{2}$ | 9 $\frac{1}{2}$  | 11 $\frac{15}{16}$ | 7 $\frac{1}{16}$  | 6 $\frac{1}{4}$  | 10 $\frac{1}{2}$ | 4 $\frac{1}{2}$   | 9 $\frac{1}{4}$  | 4 $\frac{1}{2}$   | 18 $\frac{3}{8}$ |
| 3 $\frac{1}{2}$ | 26 $\frac{3}{4}$ | 8 $\frac{7}{8}$  | 12 $\frac{15}{16}$ | 7 $\frac{1}{2}$   | 6 $\frac{5}{8}$  | 11               | 5                 | 10               | 5                 | 20               |
| 4               | 29 $\frac{1}{4}$ | 9 $\frac{1}{2}$  | 14 $\frac{1}{8}$   | 8                 | 7 $\frac{7}{16}$ | 12 $\frac{1}{2}$ | 5 $\frac{11}{16}$ | 11               | 5 $\frac{11}{16}$ | 22 $\frac{3}{8}$ |
| 4 $\frac{1}{2}$ | 31               | 10 $\frac{1}{2}$ | 14 $\frac{3}{16}$  | 8 $\frac{7}{16}$  | 8 $\frac{1}{4}$  | 14               | 6 $\frac{3}{8}$   | 12 $\frac{1}{2}$ | 6 $\frac{3}{8}$   | 22 $\frac{3}{4}$ |

# The Ashton Duplex Pop Safety Valves



## LIST OF PARTS

Ashton D. I., D. I.-10, D. I.-11 and D. I.-12 Valves

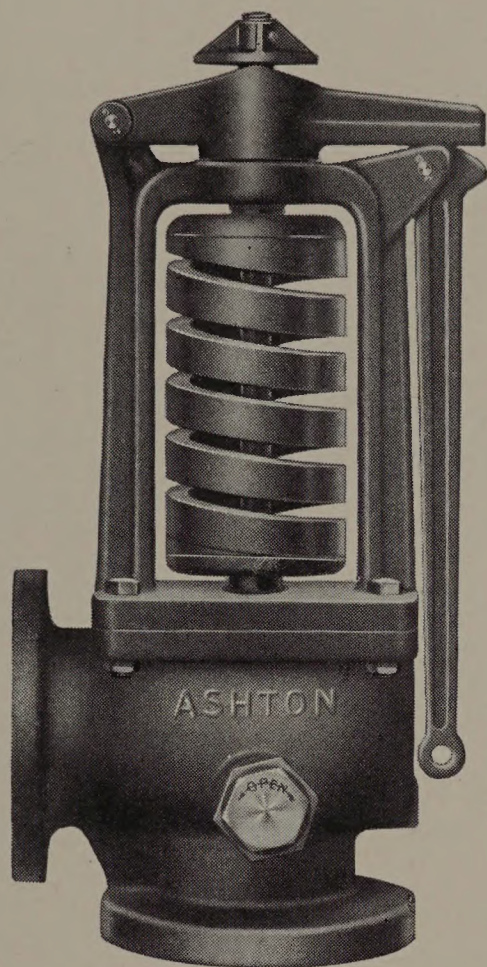
| Name of Part                            | Letter |
|---|--------|
| Body . . . . .                          | A      |
| Head . . . . .                          | B      |
| Cap . . . . .                           | C      |
| Cap Lock Nut . . . . .                  |        |
| Wing Valve { Bronze . . . . .           | D      |
| { Nickel . . . . .                      |        |
| Wing Valve Lock Nut . . . . .           | FF     |
| Bottom Disc . . . . .                   | E      |
| Top Disc . . . . .                      | F      |
| Pressure Screw . . . . .                |        |
| Spring . . . . .                        | H      |
| Head Ring . . . . .                     | I      |
| Fork . . . . .                          | J      |
| Lever . . . . .                         | K      |
| Spindle . . . . .                       | L      |
| Spindle Key . . . . .                   | EE     |
| Spindle (For Lock Attachment) . . . . . |        |
| Pressure Serew Check Nut . . . . .      | M      |
| Regulator . . . . .                     | N      |
| Regulator Check Nut . . . . .           | O      |
| Seat Bushing { Bronze . . . . .         | P      |
| { Nickel . . . . .                      |        |
| Fork Pin . . . . .                      |        |
| Lever Pin . . . . .                     | W      |
| Body Bolts and Nuts . . . . .           | Z      |
| Data Plate . . . . .                    | HH     |
| Studs . . . . .                         | T      |
| Cotter Pins . . . . .                   | GG     |
| Rocker Shaft . . . . .                  |        |
| Cam . . . . .                           |        |
| Key . . . . .                           |        |
| Rocker Shaft Bushing . . . . .          |        |

In ordering new parts, it is necessary to specify size of valve, style number, name of part and letter, also serial number of valve, and if new springs are ordered, the working pressure.

# The Ashton

## High Capacity Pop Safety Valves

(FOR HIGH PRESSURES)



C. S. H. Style with Outside Spring

### SPECIFICATIONS

| <i>Valve Parts</i> | <i>For Saturated or Superheated Steam<br/>Maximum Pressure, 600 lbs.</i> |
|--------------------|--|
| Body and Head      | Cast Steel   |
| Seat Bushing       | Nickel   |
| Wing Valve         | Nickel   |
| Pop Regulators     | Nickel   |
| Spring             | Crucible Steel   |
| Spindle            | Steel  |
| Fork and Lever     | Malleable Iron   |

The Ashton C. S. H. Style Valve is specially designed and constructed for extreme high temperature and pressures. The spring is constructed of a special alloy steel to withstand high temperatures, and being wholly outside the valve is not exposed to the steam.

This valve fully conforms to the requirements of the American Society of Mechanical Engineers' Boiler Code and with all State and City Regulations. It is constructed with inlet and outlet flanges to individual requirements and specifications. This valve is made only in the 4-inch size, and has a relieving capacity of 35,000 pounds of steam per hour at pressure of 400 to 600 pounds per square inch.

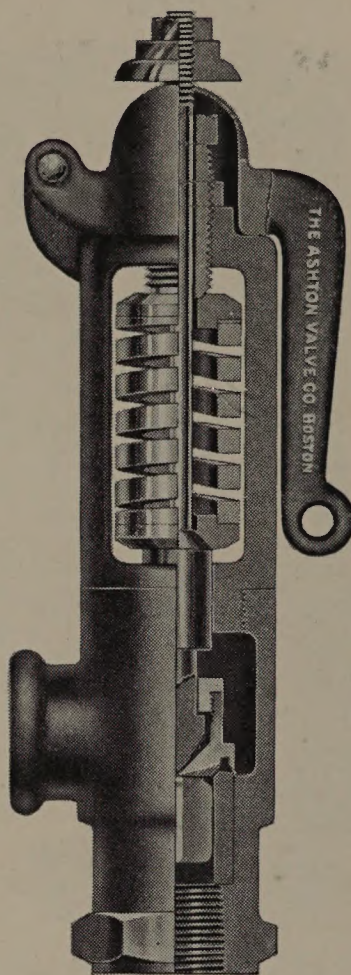
### DIMENSIONS

|  |                                      |
|--|--------------------------------------|
| Height over All.....   | 31 inches                            |
| Distance from Center of Valve to Face of Outlet Flange.....      | 7 <sup>5</sup> / <sub>8</sub> inches |
| Distance from Face of Inlet Flange to Center Line of Outlet..... | 8 <sup>1</sup> / <sub>8</sub> inches |
| Inlet Diameter.....  | 4 inches                             |
| Outlet Diameter.....   | 5 inches                             |
| Weight.....  | 225 pounds                           |

PRICES ON APPLICATION

# The Ashton Outside Spring Style Pop Safety Valves

(STEEL BODY)



No. 17B

The Ashton No. 17B Style Valve is constructed with cast steel body and head with the spring outside the valve body, and is designed particularly for use on superheaters and high-pressure steam boilers for pressures up to 600 pounds per square inch. Both the wing valve and seat bushing are of a nickel alloy.

In sizes above  $\frac{3}{4}$  inch this valve is made either with screwed connections, flanged inlet and screwed outlet; or flanged inlet and flanged outlet.

|  |                |                |                 |                 |                 |                 |
|--|----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Size Valve, inches . . . . .             | $\frac{1}{2}$  | $\frac{3}{4}$  | 1               | $1\frac{1}{4}$  | $1\frac{1}{2}$  | 2               |
| Diameter Inlet Flange, inches . . . . .  | ...            | ...            | $4\frac{7}{8}$  | $5\frac{1}{4}$  | $6\frac{1}{8}$  | $6\frac{1}{2}$  |
| Diameter Outlet Flange, inches . . . . . | ...            | ...            | 4               | $4\frac{1}{2}$  | 5               | 6               |
| Total Height, inches . . . . .           | $8\frac{3}{4}$ | $8\frac{3}{4}$ | $12\frac{1}{2}$ | $13\frac{1}{4}$ | $13\frac{1}{4}$ | $15\frac{1}{4}$ |

Orders should specify size of valve, style connections, set pressure, and also degrees of superheat.

PRICES ON APPLICATION



